



CHECKING THE SWITCHES

EB501029

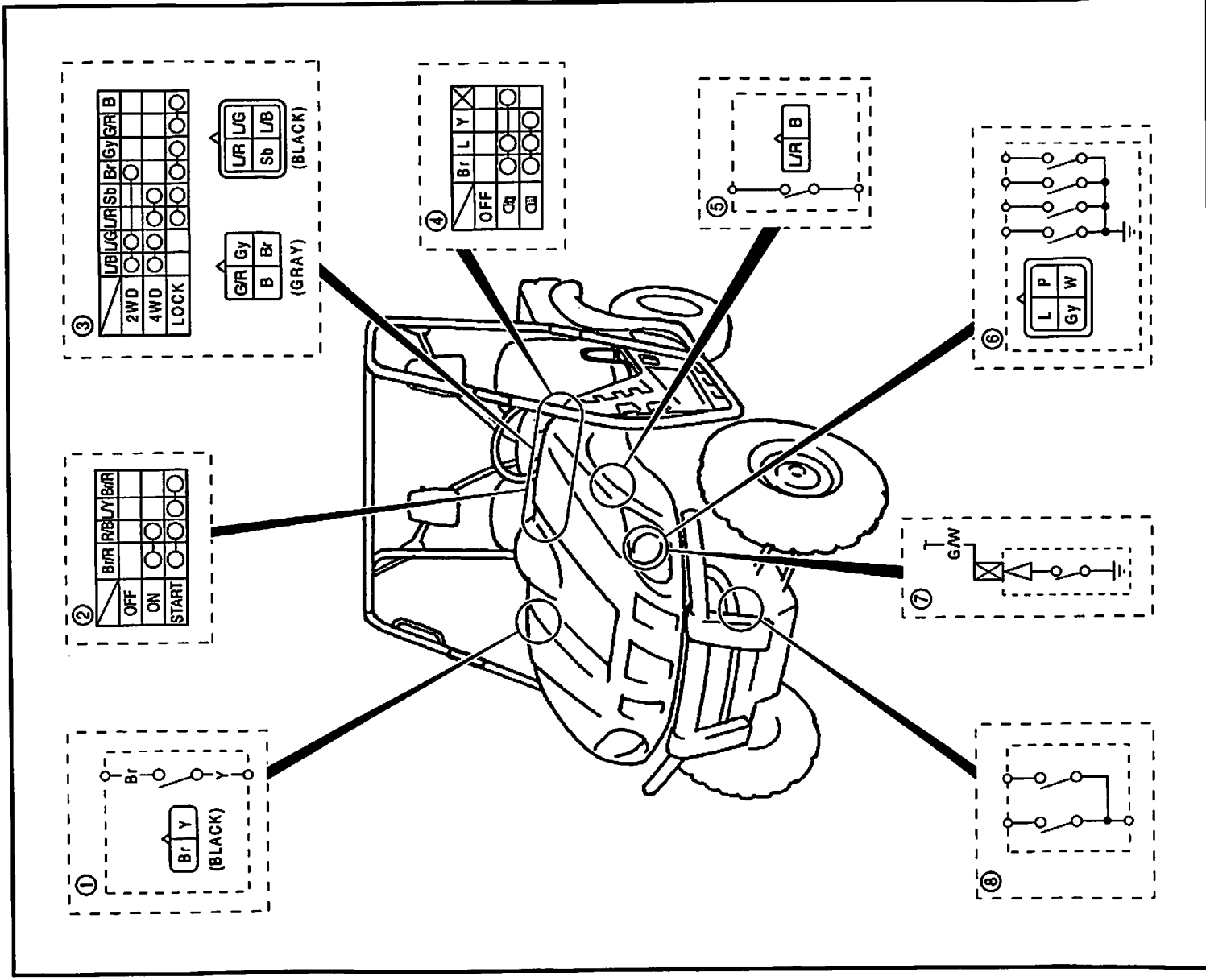
CHECKING THE SWITCHES

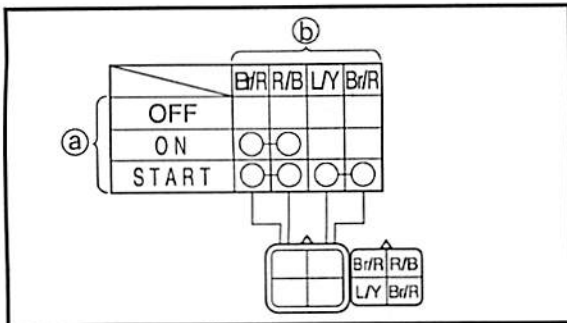
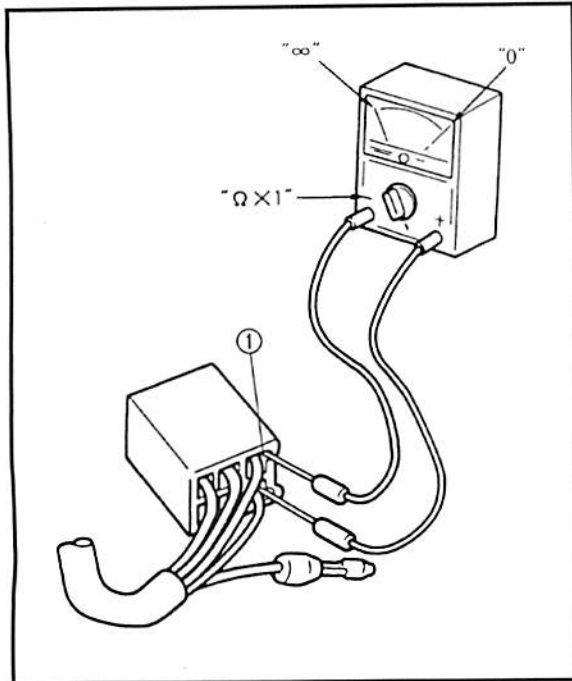
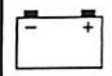
Check each switch for damage or wear, proper connections, and also for continuity between the terminals. Refer to "CHECKING SWITCH CONTINUITY".

Damage/wear → Repair or replace.

Improperly connected → Properly connect.

Incorrect continuity reading → Replace the switch.





EBS01028

CHECKING SWITCH CONTINUITY

Check each switch for continuity with the pocket tester. If the continuity reading is incorrect, check the wiring connections and if necessary, replace the switch.

NOTICE

Never insert the tester probes into the coupler terminal slots ①. Always insert the probes from the opposite end of the coupler, taking care not to loosen or damage the leads.



Pocket tester
90890-03112
Analog pocket tester
YU-03112-C

TIP:

- Before checking for continuity, set the pocket tester to "0" and to the "Ω × 1" range.
- When checking for continuity, switch back and forth between the switch positions a few times.

The terminal connections for switches (e.g., main switch) are shown in an illustration similar to the one on the left.

The switch positions ① are shown in the far left column and the switch lead colors ② are shown in the top row in the switch illustration.

TIP:

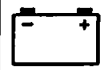
"○—○" indicates a continuity of electricity between switch terminals (i.e., a closed circuit at the respective switch position).

The example illustration on the left shows that:

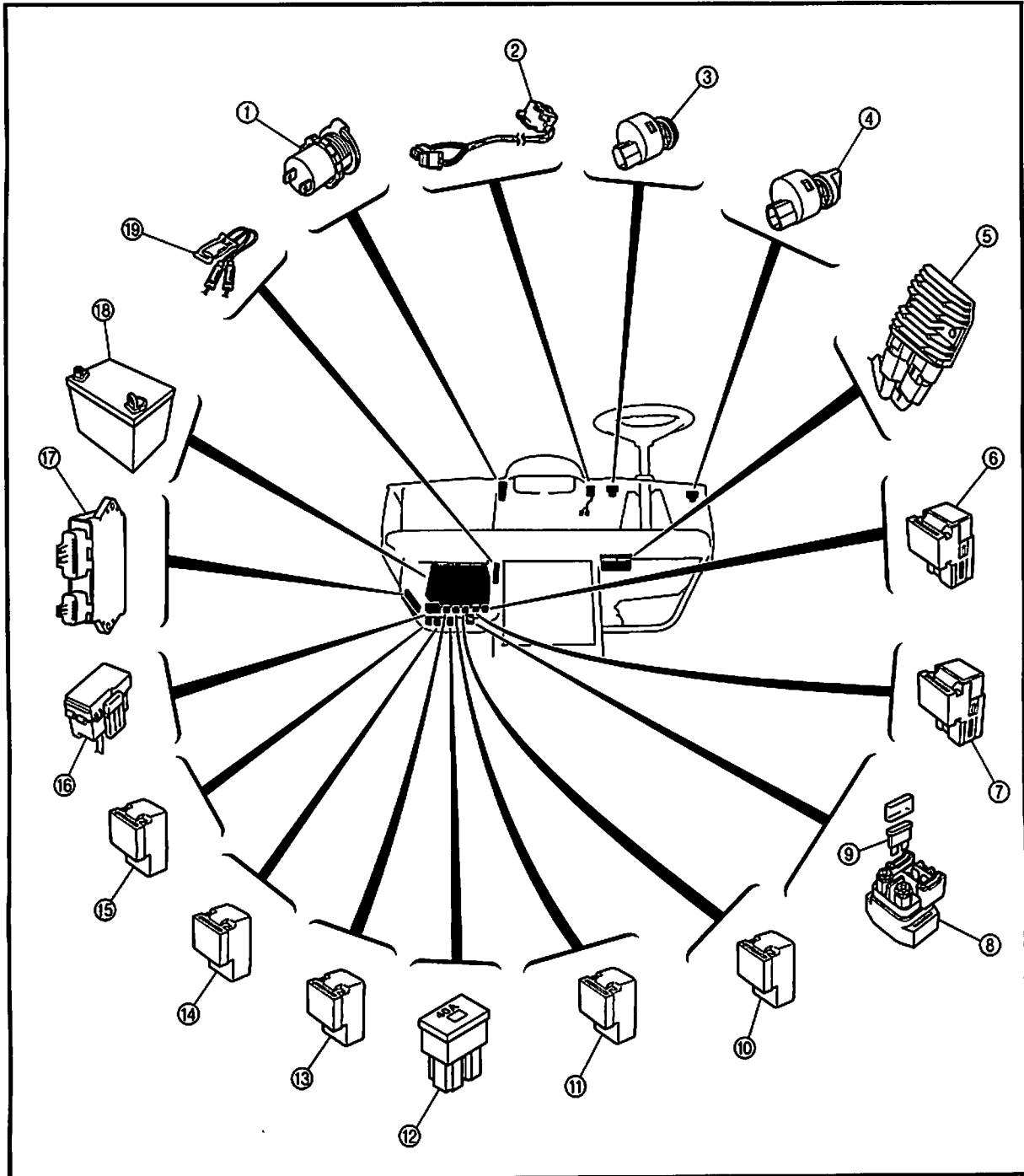
There is continuity between brown/red and red/black when the switch is set to "ON".

ELECTRICAL COMPONENTS

ELEC



- ① Auxiliary DC jack
- ② On-Command four-wheel-drive motor switch and differential gear lock switch
- ③ Main switch
- ④ Light switch
- ⑤ Rectifier/regulator
- ⑥ Four-wheel-drive motor relay 2
- ⑦ Four-wheel-drive motor relay 1
- ⑧ Starter relay
- ⑨ Fuel injection system fuse
- ⑩ Headlight relay
- ⑪ Fuel injection system relay
- ⑫ Main fuse
- ⑬ Radiator fan motor relay
- ⑭ Load control relay
- ⑮ Four-wheel-drive motor relay 3
- ⑯ Fuse box
- ⑰ ECU (engine control unit)
- ⑱ Battery
- ⑲ Radiator fan motor circuit breaker

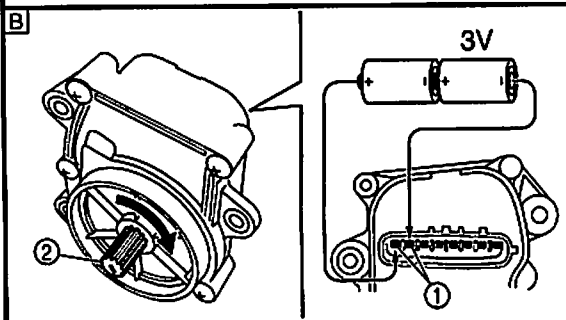
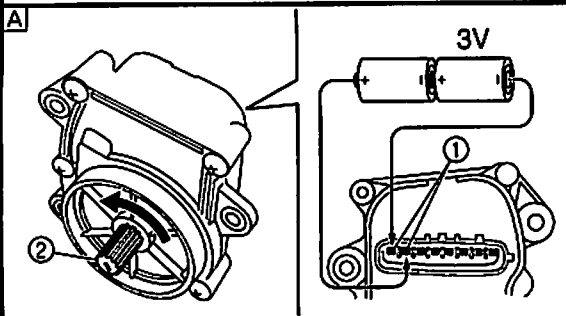


8. Differential gear motor

- Disconnect the differential gear motor coupler.
- Remove the differential gear motor from the differential gear case.
Refer to "FRONT CONSTANT VELOCITY JOINTS, DIFFERENTIAL GEAR AND DRIVE SHAFT" in chapter 7.
- Connect two C size batteries to the differential gear motor terminals ① (as shown illustrations).

A Check that the pinion gear ② turns counter-clockwise.

B Check that the pinion gear ② turns clockwise.



- Make sure that the drive gear (shift fork sliding gear) operates correctly.

TIP:

When installing the differential gear motor, refer to "FRONT CONSTANT VELOCITY JOINTS, DIFFERENTIAL GEAR AND DRIVE SHAFT" in chapter 7.

↓ YES

↓ NO

Replace the differential gear motor.

EBS01094

9. Wiring connection

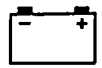
- Check the connections of the entire 2WD/4WD selecting system.
Refer to "CIRCUIT DIAGRAM".
- Is the 2WD/4WD system wiring properly connected and without defects?

↓ YES

↓ NO

Replace the ECU.

Properly connect or repair the 2WD/4WD selecting system wiring.



EBS01098

6. Four-wheel-drive motor relay 3

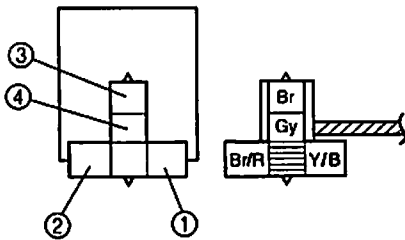
- Remove the four-wheel-drive motor relay 3 from the wire harness.
- Connect the pocket tester ($\Omega \times 1$) and the battery (12 V) to the four-wheel-drive motor relay 3 terminals.

Positive battery terminal → brown/red ①

Negative battery terminal → yellow/black ②

Positive tester probe → brown ③

Negative tester probe → gray ④



- Check the four-wheel-drive motor relay 3 for continuity.

↓ YES

↓ NO

Replace the four-wheel-drive motor relay 3.

EBS01092

7. On-command four-wheel-drive motor switch and differential gear lock switch

- Check the on-command four-wheel-drive motor switch and differential gear lock switch for continuity. Refer to "CHECKING THE SWITCHES".
- Is the on-command four-wheel-drive motor switch and differential gear lock switch OK?

↓ YES

↓ NO

Replace the on-command four-wheel-drive motor switch and differential gear lock switch.

EBS01096

EBS01097

4. Four-wheel-drive motor relay 1

- Remove the four-wheel-drive motor relay 1 from the wire harness.
- Connect the pocket tester ($\Omega \times 1$) and the battery (12 V) to the four-wheel-drive motor relay 1 terminals.

Positive tester probe → black/yellow ①
Negative tester probe → black ②

Positive battery terminal → brown/red ③
Negative battery terminal → blue/red ④

Positive tester probe → black/yellow ①
Negative tester probe → brown/red ⑤

- Check the four-wheel-drive motor relay 1 for continuity.

↓ YES

↓ NO

Replace the four-wheel-drive motor relay 1.

5. Four-wheel-drive motor relay 2

- Remove the four-wheel-drive motor relay 2 from the wire harness.
- Connect the pocket tester ($\Omega \times 1$) and the battery (12 V) to the four-wheel-drive motor relay 2 terminals.

Positive tester probe → brown/black ①
Negative tester probe → black ②

Positive battery terminal → brown/red ③
Negative battery terminal → blue/green ④

Positive tester probe → brown/black ①
Negative tester probe → brown/red ⑤

- Check the four-wheel-drive motor relay 2 for continuity.

↓ YES

↓ NO

Replace the four-wheel-drive motor relay 2.

EBS01095

TROUBLESHOOTING


The four-wheel-drive motor indicator light fails to come on.

Check:

1. main, ignition and four-wheel-drive motor fuses
2. battery
3. main switch
4. four-wheel-drive motor relay 1
5. four-wheel-drive motor relay 2
6. four-wheel-drive motor relay 3
7. on-command four-wheel-drive motor switch and differential gear lock switch
8. differential gear motor
9. wiring connection
(the entire 2WD/4WD selecting system)

TIP: _____

- Before troubleshooting, remove the following part(s):
 1. rear console
- Troubleshoot with the following special tool(s).



Pocket tester
90890-03112
Analog pocket tester
YU-03112-C

EBS01043

1. Main, ignition and four-wheel-drive motor fuses

- Check the main, ignition and four-wheel-drive motor fuses for continuity. Refer to "CHECKING THE FUSES" in chapter 3.
- Are the main, ignition and four-wheel-drive motor fuses OK?

↓ YES

↓ NO

Replace the fuse(s).

EBS01044

2. Battery

- Check the condition of the battery. Refer to "CHECKING AND CHARGING THE BATTERY" in chapter 3.



Minimum open-circuit voltage
12.8 V or more at 20 °C (68 °F)

- Is the battery OK?

↓ YES

↓ NO

- Clean the battery terminals.
- Recharge or replace the battery.

EBS01041

3. Main switch

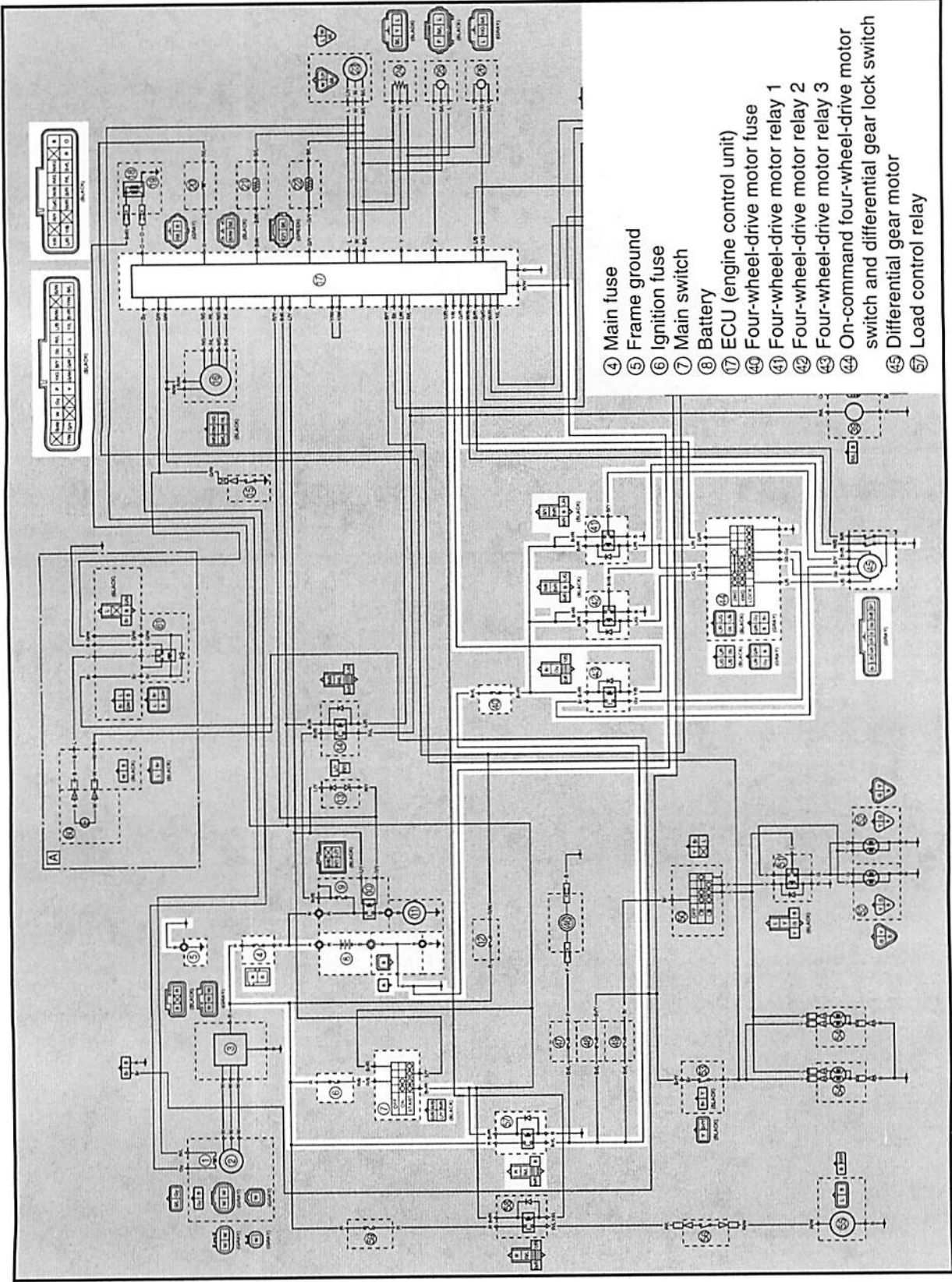
- Check the main switch for continuity. Refer to "CHECKING THE SWITCHES".
- Is the main switch OK?

↓ YES

↓ NO

Replace the main switch.

EBS00535
2WD/4WD SELECTING SYSTEM
CIRCUIT DIAGRAM



- ④ Main fuse
- ⑤ Frame ground
- ⑥ Ignition fuse
- ⑦ Main switch
- ⑧ Battery
- ⑰ ECU (engine control unit)
- ④① Four-wheel-drive motor fuse
- ④① Four-wheel-drive motor relay 1
- ④② Four-wheel-drive motor relay 2
- ④③ Four-wheel-drive motor relay 3
- ④④ On-command four-wheel-drive motor switch and differential gear lock switch
- ④⑤ Differential gear motor
- ④⑥ Load control relay